

## ALCAS Corner (Australian LCA Society)

### Reflections upon 2002 and looking ahead to 2003

Karli James<sup>1\*</sup>, Paul Beavis<sup>2</sup> and Tim Grant<sup>3</sup>

<sup>1</sup> ALCAS Secretary ([Karli.James@rmit.edu.au](mailto:Karli.James@rmit.edu.au)) • <sup>2</sup> ALCAS member ([paulb@civeng.unsw.edu.au](mailto:paulb@civeng.unsw.edu.au)) • <sup>3</sup> ALCAS President ([Tim.Grant@rmit.edu.au](mailto:Tim.Grant@rmit.edu.au))

\*Corresponding author: Karli James, Project Officer, Life Cycle Assessment, Centre for Design, RMIT University, GPO Box 2476V, Melbourne VIC 3001, Australia

#### About ALCAS

The Australian Life Cycle Assessment Society (ALCAS) is a professional organisation for people interested in practice, use, development and interpretation of Life Cycle Assessment (LCA). It is a not-for-profit organisation with individual and corporate members from industry, government, academia and service organisation.

The purpose of the society is to promote and foster the responsible development and application of LCA methodology in Australia and internationally with a view to making a positive contribution to Ecological Sustainable Development (ESD) and to represent the Australian LCA community in the international arena. The specific objectives of ALCAS are:

1. To promote and foster the appropriate application of LCA in Australia.
2. To promote and foster the responsible development of LCA methodology in Australia with consideration of international initiatives and commensurate with local conditions.
3. To foster links with the international LCA community.
4. To organise a regular LCA Roundtable to facilitate information exchange and discussion on LCA amongst stakeholder groups.
5. To contribute to national policies, positions and approaches on LCA and its applications both nationally and internationally.
6. Increase education and awareness of LCA among stakeholders including industry, academia, government, non-government organisations, LCA practitioners, end users and the general public.
7. To develop a national competence in LCA to meet the environmental challenges both locally and internationally.

Looking back upon 2002, the Australian Life Cycle Assessment Society (ALCAS) has had a successful year such as running the 3rd National Conference on LCA and three LCA Roundtables, while increasing our membership numbers. In this column we would like to give you a summary of the recent LCA roundtable held in Sydney (November 2002) and information on areas of development that ALCAS will be focusing its attention on in 2003.

#### LCA Roundtable in Sydney

The final LCA roundtable for 2002 was held at the University of New South Wales, Sydney on the 1st of November. Attendees from regulatory, business and academic bodies heard presentations on two themes: i) *Space* which dealt with material accounting of an activity embedded in the local and regional environment including ecological footprint measures, material flux analysis, and site specific Environmental Impact Assessment and LCA; and ii) *Optimisation* which covered both product and service systems and considered using interactive tools to provide users with the capacity for more dynamic decision-making.

TIM GRANT (RMIT) discussed the different roles of LCA and Ecological Footprints in analysis and communication of environmental information. The use of ecological footprints is appropriate for a region (state) wide scope but the interpretative power of an LCA platform must also be considered. SVEN LUNDIE (UNSW) presented results on an Ecological Footprint for Sydney Water Corporation. The methodology was based on input-output assessment. The inclusion of a structural path decomposition technique gave insight into the decision support potential of the Ecological Footprint measure. STEPHEN MOORE (UNSW) presented the concept of material and substance flux analysis. An Australian case study on a cadmium balance was presented. STUART ROSS (University of Melbourne) discussed the interactive role of Environmental Impact Assessments (EIA) and LCA. It was identified that EIA suited the identification of acute environmental problems, while LCA was applicable to cumulative impacts. The potential policy prowess of LCA was presented in a case study of paper packaging systems with a quantification of trade-offs. ADISA AZAPAGIC (University of Surrey, UK) presented the methodology behind the CHAMP software (CHAM Management of Materials and

Products). CHAMP intends to incorporate material cascades of recycling and reuse. A Parato Optimisation engine allows for multi-attribute decisions to co-ordinate technical, economic, and environmental performance. PAUL KOLTUN (CSIRO) presented an LCA case study on renewable energy technologies. This was the comparison between a conventional aluminium solar collector and a plastic solar collector as an energy source for a home air-conditioning system. For the given functional unit, 1 GJ heat, the plastic collector provided superior environmental performance. This LCA displayed state of the art techniques including Monte Carlo simulation for uncertainty assessment in the data, and sensitivity of different recycling scenarios. PAUL BEAVIS (UNSW) discussed work in the LCA project on centralised wastewater treatment systems (WWTP) and discussed aspects of a screening tool for environmental benchmarking of WWTPs. Further work is being undertaken in decision support for unit process selection.

#### What does 2003 have installed for ALCAS

ALCAS is proposing the establishment of a National Life Cycle Data Resource. This resource would be a common, consistent and independent set of data that can be used for LCA. The availability of this data will reduce the cost of undertaking an LCA in several ways. For example: i) costs will be reduced for industry attempting to provide LCA results along the supply chain either domestically or for export products; ii) for governments to undertake policy work with greater levels of certainty and agreement; and iii) for researchers to improve the relevance and usability of their work. LCA data is used for many different purposes in Australia, from research to policy to material selection. A National Life Cycle Data Resource will be based on a standard protocol for a national data set, which is generally achievable for most common materials and processes. It will also develop categorisation for other data sets based on the variation from the protocol. An ALCAS Technical Committee is currently being established to develop the standard data protocol and manage the National Life Cycle Data Resource. The data resource will be open to all data developers, including industry, researchers and government both for submission of data for assessment against the protocol, and for use of data certified by the protocol. Additional information on the protocol can be found at <http://www.alcas.asn.au/>